

SZÉCHENYI



European Union
European Regional
Development Fund



INNO PROVEMENT

Interreg Europe

INNO PROVEMENT

Translating Industry 4.0 to improved SME policy instruments targeting innovation

Regional Action Plan

Ministry of Finance, Hungary – Project Partner 1

Budapest, November 2021



Contents

1 Executive summary.....	3
2 General information.....	4
3 Policy context.....	7
4 Details of the actions envisaged	10
4.1 ACTION 1 – MONITORING METHODOLOGY FOR INDUSTRY 4.0 PROGRESS OF SMES	10
4.1.1 Relevance to the project.....	10
4.1.2. Nature of the action	11
4.1.3 Stakeholders involved.....	12
4.1.4 Timeframe.....	13
4.1.5 Costs.....	13
4.1.6 Funding sources	14
4.2 ACTION 2 – FINETUNING THE INDUSTRY 4.0 EVALUATION CRITERIA USED IN SME CALLS	14
4.2.1 Relevance to the project.....	14
4.2.2. Nature of the action	15
4.2.3 Stakeholders involved.....	15
4.2.4 Timeframe.....	16
4.2.5 Costs.....	16
4.2.6 Funding sources	17
4.3 ACTION 3 – UPGRADE OF NIGHT OF INDUSTRY 4.0	17
4.3.1 Relevance to the project.....	17
4.3.2. Nature of the action	18
4.3.3 Stakeholders involved.....	19
4.3.4 Timeframe.....	20
4.3.5 Costs.....	20
4.3.6 Funding sources	21



1 Executive summary

This document is the Regional Action Plan of the Managing Authority of the Economic Development and Innovation Operational Programme in the Deputy State Secretariat Responsible for Implementing Economic Development Programmes in the Ministry of Finance Hungary - Project Partner 1 in the INNO PROEVEMENT Interreg Europe Project. Ministry of Finance puts forward 3 actions in this action plan. All of these actions are motivated by the examples that the Ministry of Finance learned from the INNO PROEVEMENT partnership. 1 of the 3 actions is planned to be supported through a pilot. Phase 2 will serve for the monitoring of the implementation of these actions.

The Action Plan addresses three policy instruments:

1. Economic Development and Innovation Operational Programme (2014-2020) (ERDF and ESA Fund), Priority Axis 2 “Research, Technology development and Innovation”, Measure 2.1 “Enhancing R&I activity of research and technology intense enterprises” – this is the policy instrument defined in the application form
2. Economic Development and Innovation Operational Programme (2014-2020) (ERDF and ESA Fund), Priority Axis 1 “Increasing the competitiveness and productivity of SMEs”, Measure 1.3 Creating growth opportunities for SMEs (No. 2.)
3. Economic Development and Innovation Operational Programme Plus (2021-2027) (ERDF and ESA Fund), Priority Axis 1, Measure “Enhancing SMEs’ growth and competitiveness – Technological and organisational renewal of the Hungarian SME sector

The three actions:

1. Monitoring methodology for Industry 4.0 progress of SMEs
2. Finetuning the Industry 4.0 evaluation criteria used in SME calls
3. Upgrade of Night of Industry 4.0 (through pilot action)



2 General information

Project: Translating Industry 4.0 to improved SME policy instruments targeting innovation

Project acronym: INNO PROVEMENT

Partner organisation(s) concerned: Ministry of Finance, Deputy State Secretariat Responsible for Implementing Economic Development Programs

Country: Hungary

NUTS2 region: Central Hungary

Contact person: Peter Keller

Email address: peter.keller@pm.gov.hu

Phone number: +36-1-896-1302

INNOPROVEMENT aims at improving SME PIs targeting innovation activities and adapting them to requirements set by Industry 4.0. The project received funding in the 3rd round of calls in the Interreg Europe Programme. Phase 1 of the project started on 01/06/2018 and ends officially on 31/05/2021. Phase 2 of the project lasts from 01/06/2021 to 31/05/2023. The COVID-19 pandemic had a substantial delay on Phase 1 activities therefore the Interreg Europe Joint Secretariat gave consent on finalising Phase 1 activities in the first months of Phase 2.

The project is implemented by a transnational consortium with the following project partners:

- Ministry of Finance, Hungary – lead partner
- ICT Association of Hungary - advisory partner
- Ministry of Industry and Trade (Czech Republic) – project partner
- Region of Thessaly (Greece) – project partner
- Marche Region (Italy) – project partner
- COMPETE 2020 Managing Authority of the Competitiveness and Internationalisation Operational Programme (Portugal) – project partner
- Lodzkie Region (Poland) – project partner
- Regional Council of Kainuu (Finland) – project partner



The partnership of the project is clearly distinctive compared to other INTERREG EUROPE projects because – apart from the advisory partner – it is composed of managing authorities directly responsible for the policy instruments they address and they all target nationally co-financed regional or national ERDF/ESF instruments in the project.

Phase 1 had three major overlapping stages:

1. **Analysis:** all partners carried out regional assessments about the status of digitalisation and Industry 4.0 specifically for their territories. The assessment included overview on relevant statistics, analysis of concerned strategies and programmes and for most partners an online survey conducted among SMEs. From the regional assessments a Joint Analysis Report has been produced with joint observations and conclusions.
2. **Experience exchange:** This is the most important module of the project structured along 7 thematic issues. The thematic issues have been elaborated by the partnership following the same procedure: Host of each thematic issued provided guidelines on their thematic issue. Based on the guidelines, partners gathered relevant local experience with the involvement of stakeholders. The thematic issue was then discussed during thematic transnational meetings. Results of the discussions were taken home and shared with stakeholders. Summary of each thematic issue is presented in thematic papers. During the knowledge exchange good practices have been identified and presented. This structure provided the framework for sharing knowledge and practices among project partners and stakeholders. The thematic transnational meetings have taken place as follows:

	Thematic issue	Host	Place and date of meeting
1	The effectiveness of public money used to support industrial research and development under I4.0	Ministry of Industry and Trade (Czech Republic)	Prague, 12-14 March 2019
2	Introducing I4.0 to traditional industries	Regional Council of Kainuu (Finland)	Vuokatti, 17-20 June 2019
3	Definition of I4.0 public policy initiatives	COMPETE 2020 Managing Authority of the Competitiveness and Internationalisation Operational Programme (Portugal)	Lisbon, 18-20 November 2019
4	Definition of an I4.0 maturity evaluation matrix	Lodzkie Region (Poland)	Online meeting, 14 May 2020
5	Market price assessment	Ministry of Finance, Hungary	Online meeting, 3-4 November 2020
6	Innovation in software development	Region of Thessaly (Greece)	Online meeting, 11-12 May, 2021
7	Adjusting calls to Industry 4.0 requirements	Marche Region (Italy)	Online meeting, 30 June – 1 July, 2021

3. **Action Planning:** The good practices and the thematic papers provided the primary inspirations for the regional actions of project partners. Actions have been elaborated in the Regional Action Plans. Due to delays in Phase 1 activities and closure of 2014-2020 programmes, some of the project partners opted for targeting policy instruments from the 2021-2027 programming period.



Ministry of Finance puts forward 3 actions in this action plan. All of these actions are motivated by the examples that the Ministry of Finance learned from the INNO PROVEMENT partnership. 1 of the 3 actions is planned to be supported through a pilot. Phase 2 will serve for the monitoring of the implementation of these actions.



3 Policy context

The Action Plan aims to impact: x Investment for Growth and Jobs programme
European Territorial Cooperation programme
Other regional development policy instrument

The Action Plan addresses three policy instruments: the policy instrument defined in the INNO PROVEDMENT application form (No. 1 in the list below), and two new policy instruments, one from the outgoing competitiveness operational programme (No. 2. In the list below) and one from the new competitiveness operational programme (No. 3. In the list below)

Name of the policy instruments addressed:

1. Economic Development and Innovation Operational Programme (2014-2020) (ERDF and ESA Fund), Priority Axis 2 “Research, Technology development and Innovation”, Measure 2.1 “Enhancing R&I activity of research and technology intense enterprises” – this is the policy instrument defined in the application form
2. Economic Development and Innovation Operational Programme (2014-2020) (ERDF and ESA Fund), Priority Axis 1 “Increasing the competitiveness and productivity of SMEs”, Measure 1.3 Creating growth opportunities for SMEs (No. 2.)
3. Economic Development and Innovation Operational Programme Plus (2021-2027) (ERDF and ESA Fund), Priority Axis 1, Measure “Enhancing SMEs’ growth and competitiveness - Technological and organisational renewal of the Hungarian SME sector

Further details on the policy context and the way the action plan should contribute to improve the policy instruments:

Economic Development and Innovation Operational Programme (2014-2020) (ERDF and ESA Fund), Priority Axis 2 “Research, Technology development and Innovation”, Measure 2.1 “Enhancing R&I activity of research and technology intense enterprises”

This is the policy instrument that the Ministry of Finance defined in the INNO PROVEDMENT application form. Priority Axis 2 contributes to the strategic objective of the OP, which is increasing the competitiveness of the domestic SMEs. PA2 aims at utilising the potential of R&D and technological innovation through winding up bottlenecks hindering R&I activities of companies and through intensifying technology transfer mechanisms. The S3 approach identified focal points to support under PA2. One of the 3 national specialisations of the Hungarian S3 is intelligent manufacturing, which is directly related to the thematic specialisation of INNOPROVEDMENT. Through entrepreneurial discovery process a number of research areas have been determined including ICT and



services, intelligent technologies etc. Under PA2, Measure 2.1 addresses R&I activities of enterprises. Specific objectives of the measure: prototype, product, technology and service improvement of companies, particularly SMEs building on Hungarian research results; support to cooperation of enterprises and research centres; building an innovation ecosystem favouring startups and spinoffs etc. The measure is implemented through open calls for proposals. The calls are designed and implemented with 'a traditional approach' to innovation activities, which results in underperformance. The calls favour projects mainly from the 'old industry' with none or limited ICT-related activities and costs. This phenomenon stems from the following factors (1) mixed experience of the managing authority/intermediary body (MA/IB) of projects with obscure thematic content, unclear innovation profile, overpriced budget, superfluous activities, etc., (2) limited knowledge and tools to effectively tackle these types of projects by the concerned MA/IB personnel, (3) recent audit findings related to such projects. This approach is hardly sustainable in such an environment where a reasonable share of projects submitted for support by SMEs are directly or indirectly related to Industry 4.0/Digital Agenda for Europe. Therefore, the measure and specifically its calls should be improved to better serve beneficiaries with projects related to Industry 4.0.

Economic Development and Innovation Operational Programme (2014-2020) (ERDF and ESA Fund), Priority Axis 1 "Increasing the competitiveness and productivity of SMEs", Measure 1.3 Creating growth opportunities for SMEs (No. 2.)

Some calls in EDIOP Priority Axis 1 have begun dealing with Industry 4.0 parallel to start of the INNO PROVEDMENT project implementation. Industry 4.0 specific selection criteria have been introduced in the large, technology-development open calls for SMEs (EDIOP-1.2.1). A dedicated call targeting the purchase of Industry 4.0 was published (EIOP-1.2.8) and key projects from the Priority Axis took on Industry 4.0 (Industry 4.0 project – later renamed to Modern Model Factories - EDIOP-1.1.3, and High Growth Companies project – later renamed Hungarian Multi Programme – EDIOP-1.1.4). Based on these developments it would be a mistake not to include this priority axis among the addressed policy instruments - particularly because there is room for development in the practices of these calls in comparison to what we have observed in partner countries.

Economic Development and Innovation Operational Programme Plus (2021-2027) (ERDF and ESA Fund), Priority Axis 1, Measure "Enhancing SMEs' growth and competitiveness – Technological and organisational renewal of the Hungarian SME sector"

Programming of the new operational programme goes on, full draft of the operational programme is available publicly and first SME calls have been published from Q2 2021. Even if in the programming stage, clear directions, in some cases concrete calls are already visible from the Operational Programme. From these, it is evident that Industry 4.0 is of an issue in SME development. Results of the INNO PROVEDMENT project are and will be used in the design and implementation of calls.



Through a number of rounds of consultations with internal staff, with stakeholders and with INNO PROVERMENT partners we came up with altogether 6 potential actions. In Semester 6, the potential actions have been introduced to stakeholders and based on discussions with stakeholders and further analysis of the potential actions we have selected 4 actions for elaboration. According to plans, 2 of these actions would have been underpinned by pilot actions in the INNO PROVERMENT project. The outcome of the pilot action development was that one of the two pilot actions has been approved, as such the other pilot action has been eliminated from the action plan, resulting in altogether three elaborated actions in the final action plan.

On one hand the main conclusions of the Joint Analysis Report of the INNO PROVERMENT project provide a framework for formulating our actions, on the other hand the regional assessment of Hungary highlights areas of weaknesses that can be improved through better policy instruments. In here we sum up the main conclusions of the Joint Analysis Report.

- Awareness raising:
 - Business opportunities provided by Industry 4.0 concepts are not yet broadly known among SMEs, as such awareness raising is still an important task
 - Only small minorities of surveyed companies have already a fully implemented strategy in terms of Industry 4.0.
- Company size
 - Most partners conclude that company size DOES matter when talking about preparedness and knowledge of Industry 4.0 but also about opportunities Industry 4.0 can bring. The larger a company is the higher relevance Industry 4.0 may have. As such in the spectrum of micro, small, medium enterprises, it is rather the small and medium enterprises for which Industry 4.0 is relevant.
- Human Resources
 - Lack of skilled workforce at SMEs is clearly a problem. Therefore, companies risk to use 4.0 technologies poorly or inadequately with costs that could outweigh benefits as concluded by Marche Region but relevant for all
 - Training of workforce is highly important with regards to Industry 4.0
- Public assistance
 - A clear conclusion is that companies require assistance for the introduction of Industry 4.0 solutions. However, there is no clear direction on the preferred ways of assistance. Training seems to be the most important among other alternatives including direct targeted grant type call or general technology development calls with I4.0 components.
 - At all partners national and regional governments have launched strategies and programmes in the subject of Industry 4.0, which was crucial to – at least – keep the pace with other EU member states and with global leaders in digitalisation. However, the large dependence on public financing may mean a potential threat in the long run.

The local stakeholder group is involved in the following manner in the development and finalisation of the Action Plan:

- Talks with stakeholder group members on defining action ideas – this took place from Q2 2020 to May 2021
- Regional action plan draft – Stakeholder group meeting discussion on 10 June 2021
- Finalisation of the action plan – Stakeholder group meeting in November 2021



4 Details of the actions envisaged

4.1 ACTION 1 – MONITORING METHODOLOGY FOR INDUSTRY 4.0 PROGRESS OF SMES

4.1.1 Relevance to the project

In the past years thousands of SMEs were granted support under EDIOP PA2 “RDI in companies” but also in EDIOP PA1 “technology modernization of SMEs”. A significant share of these SME projects is related to Industry 4.0. The action is the introduction of a monitoring and evaluation tool that measures and evaluates the progress that supported SMEs have made in using Industry 4.0 solutions.

We have gained lots of good ideas and experience for this action from maturity matrix and development path type of good practices of partners as follows:

- SEV Digital Maturity Index – Region of Thessaly,
- Shift to 4.0 – diagnostic tool for the implementation of industry 4.0 concepts – COMPETE 2020,
- ApuaDigiin webservice (Digitalisation support on-line service for SMEs and publicly funded organisations) – Kainuu,
- Digi, AI and ManuMaturity web tools for self-assessment - Kainuu,
- A self-assessment tool for measuring the digital maturity of a company – Lodzkie Region

The SEV Digital Maturity Index is part of the Digital Transformation Observatory developed by the Hellenic Federation of Enterprises (SEV) with the support of Deloitte. The Digital Transformation Observatory aims at providing a permanent monitoring mechanism for promoting the digital transformation of Greece. The SEV Digital Maturity index is a composite index consisting of approximately 100 key indicators and metrics. These are grouped in 7 basic dimensions that are: ICT / High Technology Sector, Connectivity Infrastructure, Policies & Regulatory Framework, Digital Skills, Digital Maturity of Businesses, Digital Maturity of Society, Digital Maturity of Public Sector. The SEV Digital Maturity Index itself provides long-term comparison of digital performance across the 7 different dimensions. **In this practice, it is primarily the longitudinal approach that is relevant for our new monitoring tool.**

In Portugal, **the self-diagnostic tool SHIFT to 4.0** was created to enable companies to self-evaluate where they stand in terms of I4.0 concepts adoption. This tool has two parts. The first part is a questionnaire where companies describe and insert the necessary data to produce an evaluation. The second part corresponds to a report which defines a classification relative to its present state, based on the self-diagnosis the company did. In this practice, **the set of indicators is interesting for the Ministry of Finance for the development of the indicators of our monitoring methodology.**



ApuaDigiin is a digital transformation tool and an open web-service, aiming at helping SMEs to make a systematic digital transformation. The tool is applied in Finland and it was developed by VTT Technical Research Centre of Finland Ltd. Thanks to the structured and comprehensive approach it tailors digital transformation to SMEs business and production processes, so that digitalisation becomes a natural part of the SME's business. In this practice, **the criteria used in the digital maturity analysis tool provide inspiration for the development of the monitoring methodology.**

Digi, AI and ManuMaturity are self-assessment tools applied in Finland. They reply to the questions: "what is the current state of play of a business?", "when does the business wish to proceed with digitalisation, apply AI or reach beyond Industry 4.0?". Each maturity tool has 6-7 dimensions with several questions related to each of the dimensions. Each question has 5 alternative response options (reflecting corresponding maturity levels) from which to choose. Just like in the case of ApuaDigiin, **the applied dimensions are interesting for the Ministry of Finance in creating the monitoring methodology.**

Digital maturity self-assessment tool proposed by the Lodzkie Region is a further good practice in the subject of digital maturity assessment. The good practice is owned by Future Industry Platform in Poland. The digital maturity tool has been built in relation to key aspects of the company's development in the context of Industry 4.0. After answering 12 substantive questions and providing 8 short statistical information about the company, the survey participant receives assessments of the level of development of key aspects in the examined company. **In this practice, we gain inspiration from the set of dimensions that are applied for the measurement of digital maturity.**

4.1.2. Nature of the action

The action is the development, launch and active use of a monitoring and evaluation methodology with regard to progress of Industry 4.0 maturity of SMEs that received grant from EDIOP PA 2 and EDIOP PA 1 in the past years. With this monitoring tool we are aiming at measuring the impact the grants had on the digital transformation of supported SMEs during the 14-20 period.

As such, this will be an Industry 4.0 specific monitoring and evaluation tool of the Managing Authority. The tool will bring clear added-value for the improved governance of the addressed policy instrument, therefore **this is a Type 2 Action**. Beyond that it will be a useful aide for the already heavily ongoing call design for EDIOP Plus in the 21-27 period.

The planned activities are as follows:

1. Developing monitoring methodology. This includes:
 - a. definition of used indicators building on the INNO PROVEMENT good practices strongly
 - b. scope of beneficiaries: defining the set of EDIOP PA2 and PA1 calls underlying the exercise, defining further criteria based on which beneficiaries in the defined calls are selected



- c. scope and nature of tool: it has to be discussed and defined whether the tool is used as a survey, or it is linked to beneficiary reports during the retention period, and/or further options
 - d. longitudinal nature of the methodology: it must be analysed whether and how any previous measurements (including the regional assessment in the INNO PRVOEMENT project) or data/information available at application stage can be used as a baseline assessment. Furthermore, discussions and decisions on check-points are needed: one-time, recurring, recurring frequency, etc.
2. Piloting the tool on a limited set of beneficiaries: it is essential to check whether the developed methodology (1) is feasible; (2) brings meaningful results; (3) can be implemented at reasonable costs and efforts.
 3. Fine-tuning methodology based on pilot results: if needed, the methodology is adjusted using the experience from pilots
 4. Full-scale launch of the tool
 5. Analysis of application of the methodology for the beneficiaries of the EDIOP Plus 21-27

Activities will be led by the Managing Authority. A working group will be set up including representatives of stakeholders, which sets tasks, reviews progress and evaluates results.

4.1.3 Stakeholders involved

Two state secretariats of the Ministry for Innovation and Technology that are responsible for policy design in the addressed policy instruments are key stakeholders. State Secretariat for higher education, innovation and vocational training is responsible for the R&D&I priority axis of both the outgoing and the new competitiveness operational programme. State Secretariat for economic strategy is responsible for the SME development priority axis of both the outgoing and the new competitiveness operational programme.

IFKA Public Benefit Nonprofit Ltd (IFKA): IFKA is a state-owned non-profit company for the development of industry with a very broad portfolio of programmes and projects some of them funded from EDIOP and many of them co-funded from Interreg Europe and other international and transnational programmes. Among the EDIOP projects IFKA implements as beneficiary, some of them deal with high growth companies and digital transformation of SMEs. Therefore, IFKA has solid experience in the field of measuring digital maturity among SMEs.

Hungarian Chamber of Commerce and Industry is responsible for fostering the development and organisation of the economy, for encouraging business growth, guaranteeing fair market practices, and assisting the general and joint promotion of interests amongst those conducting business activities. In addition to its traditional tasks, SME promotion and fostering capital exports have also become focal objectives for the Chamber. Recently, it implements a key project in EDIOP that fosters the digitalisation of SMEs. Therefore, their experience will be useful in formulating the monitoring methodology.



4.1.4 Timeframe

The time needed to implement the action is 1 year starting in October 2021 and ending in September 2022. The planned schedule is included in the following table:

No.	Activity	Deadline
1	Developing monitoring methodology	October 2021 – February 2022
2	Piloting the tool on a limited set of beneficiaries	March 2022 – May 2022
3	Fine-tuning methodology based on pilot results	June 2022
4	Full-scale launch of the tool	July 2022
5	Analysis of application of the methodology for the beneficiaries of the EDIOP Plus 21-27	August 2022 – September 2022

4.1.5 Costs

Costs related to the implementation of the action are estimated in the table below. The main cost item is staff costs of organisations participating in the implementation of the action. The action requires IT development that is also planned among the costs. Last some event hosting and catering is planned for working group meetings.

No.	Type of cost	Volume
1	Staff costs of implementing actors. Number of staff included from implementing bodies with time charged on action: <ul style="list-style-type: none">• MA – staff of 5, 0.25 of their time dedicated to the action• Ministry for Innovation and Technology – staff of 4 (two from each concerned state secretariats), 0.1 of their time dedicated to the action• IFKA – staff of 2, 0.1 of their time dedicated to the action• Hungarian Chamber of Commerce – staff of 2, 0.1. of their time dedicated to the action Duration of the action implementation is 1 year. An average FTE for a month is calculated at EUR 2500-2700.	EUR 62,220
2	IT development	EUR 10,000
3	Event hosting and catering of working group meetings: <ul style="list-style-type: none">• Calculation of 4 meetings with 25 people each• Each meeting at EUR 1500	EUR 6,000
	Total	EUR 78,220



4.1.6 Funding sources

Implementing actors will fund their own staff costs incurred with regards to the action. Each organisation is able to dedicate the needed amount of financial resources from their own budget. IT development and event hosting will be funded by the MA using own resources.

4.2 ACTION 2 – FINETUNING THE INDUSTRY 4.0 EVALUATION CRITERIA USED IN SME CALLS

4.2.1 Relevance to the project

The Managing Authority runs a number of SME calls in which development of Industry 4.0 solutions are awarded with extra points in the selection scorecard. In these calls, Industry 4.0 is a standalone selection criterion with an underlying annex detailing the concerned requirements. The criterion was developed and introduced in 2015. The application of the criterion is not flawless: there are misinterpretations of the definitions and the content of the annexes, check of the criterion takes too much effort and slows down the project selection process. In INNOVATION we got to know a few good practices that can contribute to significant improvements in this selection criterion:

- Support Programme Technology 4.0 (Operational Programme of Entrepreneurship and Innovation) – MIT, Czech Republic;
- Manufacturing and Work 4.0 call – Marche Region;
- I4.0 Referentials – COMPETE 2020;

The Support Programme Technology 4.0 from the Czech Republic aims at supporting digital transformation of SMEs through the uptake of advanced technologies and their implementation in the business practices. Eligible applicants are SMEs and only projects with an already developed strategy for their digital transformation can be supported. The support is provided through the acquisition of new technological devices and equipment, which must be connected to existing or newly acquired technologies and information systems (IS or ERP, MES, MIS) and other implemented modules integrating all or most areas of business activity, especially production planning and management, inventory, purchasing, sales, finance, human resources, etc. During the assessment process, the planned digital maturity level after the implementation of the project, i. e. progress in digital transformation, is evaluated. **From this practice the assessment criteria are relevant for the finetuning that we plan.**

The Manufacturing and Work 4.0 call from Marche Region intended to promote processes of technological and digital innovation with a view to Industry 4.0 of MSMEs supporting new tangible and intangible investments capable of producing an impact on their value chain and strengthening the competitiveness of the regional production system. The intervention provided for the granting of capital grants to companies for the



implementation of investment programs aimed at the application of new digital technologies and they were closely connected to support measures for employment and training policies. To this end, the call provided that the submission of the application should be subsequent to the activation of at least one internship for insertion or reintegration into work. **The selection criteria of this call can contribute to the update of the Hungarian Industry 4.0 selection criterion.**

I4.0 Referentials applied by COMPETE 2020 in Portugal is a method to check if the project proposal has relevant investments in industry 4.0 or not. In the application the SME explains what technologies it already uses and how it will invest on the project in 3 main areas (divided in several types of technology). This methodology was used on more than 5000 applications since 2017 till now, and has allowed the SME to achieve what is considered more relevant goals on I4.0 and evaluators to understand if they are taking the appropriate steps for I4.0. **This is very close to** what we would like to achieve with the finetuning of our I4.0 selection criteria, that is why the practice is relevant to us.

4.2.2. Nature of the action

The action aims at finetuning the Industry 4.0 selection criteria and underlying annexes in SME calls. This action concerns EDIOP PA1 (SME development) 2014-2020 but also the EDIOP Plus PA1 2021-27. The action is a Type 2 Action.

The planned activities are as follows:

1. Detailed analysis of the experience from using the Industry 4.0 selection criterion and defining rooms for development. This includes gathering feedback in various forms from colleagues directly involved in using this selection criterion during project selection. Also experience from colleagues doing on-site checks will be gathered.
2. Working out concrete proposals for improving the criterion building on the experience from the INNOVATION good practices. This includes introducing details of the foreign good practices to concerned colleagues and stakeholders. Through discussion and workshops proposals are made for the update.
3. Approval of update of the selection criterion and application of the criterion in published calls.

Activities will be led by the Managing Authority. A working group will be set up including representatives of stakeholders, which sets tasks, reviews progress and evaluates results.

4.2.3 Stakeholders involved

Two state secretariats of the Ministry for Innovation and Technology that are responsible for policy design in the addressed policy instruments are key stakeholders. State Secretariat for higher education, innovation and vocational training is responsible for the R&D&I priority axis of both the outgoing and the new competitiveness



operational programme. State Secretariat for economic strategy is responsible for the SME development priority axis of both the outgoing and the new competitiveness operational programme.

IFKA Public Benefit Nonprofit Ltd (IFKA): IFKA is a state-owned non-profit company for the development of industry with a very broad portfolio of programmes and projects some of them funded from EDIOP and many of them co-funded from Interreg Europe and other international and transnational programmes. Among the EDIOP projects IFKA implements as beneficiary, some of them deal with high growth companies and digital transformation of SMEs. Therefore, IFKA has solid experience in the field of measuring digital maturity among SMEs.

Hungarian Chamber of Commerce and Industry is responsible for fostering the development and organisation of the economy, for encouraging business growth, guaranteeing fair market practices, and assisting the general and joint promotion of interests amongst those conducting business activities. In addition to its traditional tasks, SME promotion and fostering capital exports have also become focal objectives for the Chamber. Recently, it implements a key project in EDIOP that fosters the digitalisation of SMEs.

4.2.4 Timeframe

The time needed to implement the action is 7 months starting in October 2021 and ending in May 2022. The planned schedule is included in the following table:

No.	Activity	Deadline
1	Detailed analysis	October 2021 – January 2022
2	Working out concrete proposals	February 2022 – April 2022
3	Approval of update of the selection criterion	May 2022

4.2.5 Costs

Costs related to the implementation of the action are estimated in the table below. The main cost item is staff costs of organisations participating in the implementation of the action. In addition to that, some event hosting and catering is planned for working group meetings.

No.	Type of cost	Volume
1	Staff costs of implementing actors. Number of staff included from implementing bodies with time charged on action: <ul style="list-style-type: none">• MA – staff of 8, 0.25 of their time dedicated to the action	EUR 56,480



	<ul style="list-style-type: none">• Ministry for Innovation and Technology – staff of 4 (two from each concerned state secretariats), 0.1 of their time dedicated to the action• IFKA – staff of 2, 0.1 of their time dedicated to the action• Hungarian Chamber of Commerce – staff of 2, 0.1. of their time dedicated to the action Duration of the action implementation is 8 months. An average FTE for a month is calculated at EUR 2500-2700.	
2	Event hosting and catering of working group meetings: <ul style="list-style-type: none">• Calculation of 4 meetings with 25 people each• Each meeting at EUR 1500	EUR 6,000
	Total	EUR 62,480

4.2.6 Funding sources

Implementing actors will fund their own staff costs incurred with regards to the action. Each organisation is able to dedicate the needed amount of financial resources from their own budget. Event hosting will be funded by the MA using its own resources.

4.3 ACTION 3 – UPGRADE OF NIGHT OF INDUSTRY 4.0

4.3.1 Relevance to the project

One of the main messages of the joint analysis report of the INNO PROVEDMENT partnership is that business opportunities provided by Industry 4.0 concepts and solutions are not yet broadly known among SMEs in project partners' regions as such awareness raising is still an important task. The relevance of targeted awareness raising was reconfirmed in the conclusions of the Policy Learning Platform Peer Review "Shaping the Hessen Digital Transformation Support Landscape" at which the Ministry of Finance took part and represented the INNO PROVEDMENT project. The good practices of "Night of Industry 4.0 model factories" and "Night of Industry 4.0 model factories goes online" have been regarded by our project partners very inspiring. It turned out that two of the stakeholders (IAPMEI and COTEC) of COMPETE 2020 were already doing a comparable good practice since 2017. The "Open days I4.0" integrated in the I4.0 Initiative consisted in a series of conferences in selected SMEs promoting different I4.0 concepts.

Based on the high interest from project partners, partners started considering to form a pilot proposal on the good practice because project partners wished to test the approach first on a small-scale event before generalising the



good practice in their policy instruments. For the Ministry of Finance, such a pilot offers an upgrade to the good practice utilising transnational experience from piloting. 54 partners will implement the pilot action as follows:

- Project Partner 1 – Ministry of Finance (HU)
- Project Partner 5 – Marche Region (IT)
- Project Partner 6 – COMPETE 2020 Managing Authority of the Competitiveness and Internationalisation Operational Programme (PT)
- Project Partner 7 – Lodzkie Region (PL)

4.3.2. Nature of the action

Activities of the pilot action are:

- (1) Detailed event structure and content design: building on the agendas of the previous Hungarian Night of Industry 4.0 events partners develop their regional agenda. New ideas are shared and discussed since the partnership offers great cross-fertilization ground for going beyond the original practice. This includes: timing of event, length of event, potential joint sessions during the event, terms of participation for visitors (e. g. pre-registration, pre-survey,) roles of implementing actors, feedback gathering, helpdesk, etc. For online/hybrid events it must be pre-set how the shopfloors are visited virtually (e. g. video-aided livestreams from the factories with introductions to I4.0 solutions, pre-recorded high-quality “virtual tours” of the shopfloors, mini-interviews, etc.)
- (2) Involvement of and arrangements with model factories (legal, financial, GDPR, IPR, security): model factories that open up their shopfloors to visitors are key stakeholders in the pilot. Their attitude and motivation for participating in such an initiative may differ from region to region. Nevertheless, the inspiring HU approach for their involvement offers a joint starting point. The model of their involvement (financial terms, rights and obligations, GDPR, security) has to be negotiated and agreed among preparatory activities. The models will be shared by partners for mutual learning and generalisation. Beyond this, the variety of model factories with regard to their size and industries will most probably also differ from region to region based on regional specifics and needs. The various scopes will offer good opportunities for joint evaluation.
- (3) Securing IT background: The events (both offline and online) need IT infrastructure (pre-registration, promotion, accompanying games, collection of feedback, etc), this has to be arranged among preparatory activities.
- (4) Promotion: promotion strategy shall be made and implemented including teasers, banners, accompanying games, press releases, ex-post communication. Some of the promotion seems sensible at transnational level and details need be worked out here.
- (5) Event implementation: each participating region will eventually implement one Industry 4.0 awareness-raising event based on the detailed design.
- (6) Evaluation and follow-up: each partner evaluates their regional event against a pre-agreed evaluation methodology and results will be discussed jointly and put into a joint evaluation report. This will provide



a strong basis for the generalisation of the measure in respective policy instruments. Other follow-up activities include ex-post communication of the event both at partner level and at joint level.

- (7) Generalisation of pilot in addressed policy instruments: in case of success, partners integrate the measure in their policy instrument. Way of integration will be most probably different due to varying implementing structures but the general guideline here is a measure/programme/project in the policy instrument (Type 1 change) that includes the technical content of the event and earmarked budget with regular occurrence. Partners will discuss the generalisation with their concerned stakeholders and ensure the integration of the tested measure with needed-finetuning based on the piloting experience.

The good practice has been implemented through a key project from 2017 in Hungary. Due to the success of the practice, it is planned to be continued in the 21-27 EDIOP Plus Programme. Just like in the 14-20 period, the practice will be part of a specific measure implemented through a key project. The pilot offers three relevant upgrading opportunities: transnationality, learnings from partners' pilot events and the hybrid event format. The primary added-value of the pilot is transnationality, which will bring added-value to the current practice at least in the two following aspects. In the pilot, Ministry of Finance (HU) plans to involve 5 model factories from partner regions and five Hungarian companies will be offered to the foreign pilot events. This has not been done before in the previous editions of the event. As such the pilot offers testing opportunity regarding (1) how a foreign model company is received by Hungarian SMEs (the language barrier, "popularity" of the foreign company, similarities or differences in perceived challenges by Hungarian SMEs and a foreign peer) and also (2) how Hungarian model companies are received by foreign audience. On a more general level, the transnational feature offers a check on various aspects of the practice including particularly the "business model" of involving a model factory. Ministry of Finance as managing authority to various operational programmes in Hungary has a good overview of the Hungarian public support arena. The regular involvement of European SME peers as models for Hungarian SMEs would be a pioneering initiative. Third, Ministry of Finance plans for a hybrid event (the foreign peer will be involved online). So far, the practice has been organised in physical format (2017-2019) and in online format (2020). As such the pilot offers testing opportunity for a hybrid implementation and functions as an experiment from technical (IT) point of view.

4.3.3 Stakeholders involved

Two state secretariats of the Ministry for Innovation and Technology that are responsible for policy design in the addressed policy instruments are key stakeholders. State Secretariat for higher education, innovation and vocational training is responsible for the R&D&I priority axis of both the outgoing and the new competitiveness operational programme. State Secretariat for economic strategy is responsible for the SME development priority axis of both the outgoing and the new competitiveness operational programme.

IFKA Public Benefit Nonprofit Ltd (IFKA): IFKA is a state-owned non-profit company for the development of industry with a very broad portfolio of programmes and projects some of them funded from EDIOP and many of them co-funded from Interreg Europe and other international and transnational programmes. Among the EDIOP



projects IFKA implements as beneficiary, some of them deal with high growth companies and digital transformation of SMEs.

4.3.4 Timeframe

The time needed to implement the action is 6 months starting in September 2021 and ending in February 2022.

The planned schedule is included in the following table:

No.	Activity	Deadline
1	Detailed event structure and content design	November 2021 – January 2022
2	Involvement of and arrangements with model factories	January 2022 – March 2022
3	Securing IT background	January 2022 – March 2022
4	Promotion	March 2022 – April 2022
5	Joint methodology for evaluation	March 2022 – April 2022
6	Event implementation	May 2022
7	Evaluation	June 2022
8	Follow-up	July 2022 - November 2022
9	Generalisation of pilot in addressed policy instruments	July 2022 - November 2022

4.3.5 Costs

Costs related to the implementation of the action are estimated in the table below.

No.	Type of cost	Volume
1	Staff costs of implementing actors Ministry of Finance Staff of 3 with 0.25 of their time on the project for 6 months at monthly wage cost of EUR 2500 = EUR 11,250 Ministry for Innovation and Technology Staff of 2 with 0.25 of their time on the project for 6 months at monthly wage cost of EUR 2500 = EUR 7,500 IFKA Staff of 3 with 0.25 of their time on the project for 6 months at monthly wage cost of EUR 2700 = EUR 12,150	EUR 30,900
2	Office and administration (Ministry of Finance only): EUR 1,688	1,688



3	External expertise <ul style="list-style-type: none">• Promotion: EUR 4,000• Content generation: EUR 14,000• External legal counselling: EUR 1,500	EUR 16,000
	Total	EUR 52,088

From the total amount, costs incurred by the Ministry of Finance in the volume of EUR 28,937.5 are financed through the pilot action.

4.3.6 Funding sources

The practice is currently running annually as part of a key project (specific measure) of the 14-20 operational programme (EDIOP). The key project is coming to end with no room for manoeuvring in budget and technical content that are needed for the experiments envisaged in the frame of the pilot. The key project in the 21-27 new programme (EDIOP Plus) will be designed and implemented with the enriched technical content (transnational and hybrid solution) in case the pilot is successful. Therefore, the costs for the Ministry of Finance are covered the Interreg Europe Programme in the form of a pilot action.

MIT and IFKA are able dedicate the needed amount of financial sources from their own budget.



Date: 18/11/2021

Name of the organisation(s) ::

Ministry of Finance

Signatures of the relevant organisation(s): 